UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,447	08/27/2003	Volker Braun	Q77098	4594

23373 7590 10/03/2007

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
WONG, XAVIER S	
ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
10/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,447	BRAUN ET AL.	
	Examiner	Art Unit	
	Xavier Szewai Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24th July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed *24th July 2007* is acknowledged
- Claims **1-10** have been amended
- Claims **1-10** are still pending in the present application
- This action is made Final

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1 – 3, 5 – 8** and **10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hedberg et al** ("*Evolving WCDMA*").

Consider claims **1, 5, 6** and **10, Hedberg et al** show and disclose a method, sender, computer program product (pg. *130* right-col. lines *7-12* remote software loading) and mobile communications system (abstract; pg. *124* right-col. lines *1-14* wherein UMTS, IMT-2000, etc. are mobile systems) to transmit/send downlink data over two antennas – therefore, at least two signals (pg. *126* left-col. lines *36-41*). Sets of *Node Bs* along with multiple components in the UTRAN architecture in figure *1* by means of Downlink Shared Channel (DSCH) scheme allow every User Equipment (UE) for carrier frequencies to have an associated dedicated physical channel (DPCH) (abstract; pg. *129* left-col. lines *56-58* & right-col. lines *1*; pg. *130* right-col. lines *23-26*; fig. *1*); multiple UEs in code-multiplex high-speed DSCH (HS-DSCH) (pg. *129* left-col. lines *42-47*);

transmitting a frequency signal involves a space-time transmit diversity (STTD) scheme (pg. *126* left-col. lines *7-40*) and code-multiplex HS-DSCH which exploits multi-user diversity (pg. *128* right-col. lines *8-12* & pg. *129* left-col. lines *42-47*).

Consider claim **2**, and as applied to claim **1**, **Hedberg et al** shows and disclose the channels are HS-DSCH channels and code-multiplexed shared of a HSDPA transmission system (pg. *129* left-col. lines *16-56*).

Consider claims **3** and **8**, and as applied to claims **1** and **6**, **Hedberg et al** show and disclose a multi-carrier power amplifier coupled to two antennas for two (carrier) frequencies in a radio base station to send signals (pg. *130* left-col. lines *14-28* & right-col. lines *1-21*; fig. *4*).

Consider claim **7**, and as applied to claim **6**, **Hedberg et al** show and disclose the High-Speed Downlink Packet Access (HSDPA) applies fast scheduling of users sharing the HS-DSCH (code-multiplexed channels) which exploits multi-user diversity to transmit users with favorable radio connections; in other words, a scheduler would enable the use of a spectral-efficient higher-order modulation (only) when channel conditions are experience a fading dip (pg. *128* left-col. lines *24-31* & right-col. lines *1-16*; pg. *129* left col. lines *17-52*; pg. *130* left-col. lines *2-4*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **4** and **9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hedberg et al** ("*Evolving WCDMA*") in view of **Kogiantis et al** (**EP 1,211,820 A1**).

Consider claims **4** and **9**, and as applied to claims **1** and **6**, **Hedberg et al** show the claimed invention except for explicitly mentioning a number of N carrier frequencies.

In the same field of endeavor, **Kogiantis et al** disclose N antennas to be scheduled most appropriately (for the most appropriate carrier frequencies) for (N) different

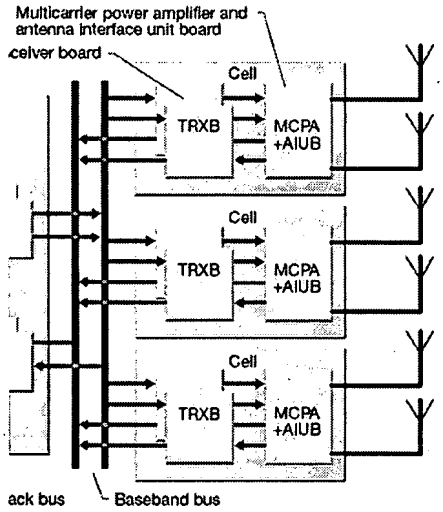
subscribers (paragraphs *0014*, *0016-17* wherein C/I ratio indicates a carrier *frequency* to interference ratio & *0019*; claim *1*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate the teachings of comprising N carrier frequencies as taught by **Kogiantis et al**, in the method and apparatus of **Hedberg et al**, in order to allow the conveyance of information over a communication channel to a particular corresponding subscriber based on channel conditions.

Response to Arguments

Applicant's arguments filed *24th July 2007* have been fully considered but they are not persuasive.

Applicants argue that in claims **1**, **5**, **6** and **10** that **Hedberg** et al do not disclose assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels. To clarify, **Hedberg** et al disclose that the Dedicated Physical Channel reads on carrying (assigning) commands for the associated uplink (1st carrier frequency) and other services such as circuit-switched voice (2nd carrier frequency) on pg. *129* lines *2-5*. Further, figure *4* shows at least two (3) *dedicated* multicarrier antenna interface units for carrying the carrier frequencies (please see *below*).



For claims **2**, **3**, **7**, **8** and **9**, the Applicants basically argues, that the claims should be patentable because they rely on independent claims **1**, **5**, **6** and **10**.

Therefore, in view of the above reasons and having addressed Applicants' argument, the previous rejection is maintained and made Final by the examiner.

Conclusion

This action is made Final. Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571-270-1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Xavier Wong

Xavier Szewai Wong
X.S.W / x.s.w
18th September 2007

Seema S. Rao 9/28/07
SEEMA S. RAO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600